IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method of forming a coating on an optical fiber, comprising ~~the steps of~~:

setting a coating forming portion of the optical fiber in a mold;

injecting a light-curing resin into the mold;

heating and monitoring the mold in order to heat the light-curing resin up to a glass transition temperature thereof; and

~~providing a light-curing resin on a coating forming portion of an optical fiber; and~~

irradiating ~~with a light for curing~~ the light-curing resin, which has been heated up to [[a]] the glass transition temperature, ~~of the resin or other heat setting temperatures~~ with a light in order to cure the light-curing resin.

Claim 2 (Currently Amended): The method of forming a coating on the optical fiber according to claim 1,

wherein in heating the light-curing resin, a ~~heating~~ preset temperature is maintained for a predetermined ~~set~~ period of time after having reached the glass transition temperature ~~or the other heat setting temperatures that is a predetermined preset temperature set by a temperature of the light-cuiring resin due to a temperature rise caused by heating~~, and

wherein in irradiating the ~~light for curing~~ light-curing resin, irradiation is continuously conducted from a start time of heating ~~for temperature rise~~ toward said ~~heating~~ preset temperature to the end of said [[set]] predetermined period of time ~~to maintain the heating preset temperature~~.

Claim 3 (Currently Amended): The method of forming a coating on the optical fiber according to claim 1, further comprising: ~~comprising setting the coating forming portion of the optical fiber inside a the mold, and filling the light-curing resin in the mold to provide the light-curing resin on the coating forming portion of the optical fiber, wherein~~

heating said mold ~~is heated~~ to a temperature for enhancing flowability of the light-curing resin when the light-curing resin is ~~filled in~~ injected into the mold.

Claim 4 (Withdrawn): A apparatus for forming a coating on an optical fiber comprising:

a mold for coating with a light-curing resin a portion on which a coating is to be formed of an optical fiber;

a heating-and-cooling unit for selectively heating and cooling the light-curing resin inside said mold;

a temperature sensor for detecting the temperature of said light-curing resin;

a light source for irradiating said light-curing resin with a light for curing; and

a temperature control unit for controlling said heating-and-cooling unit by a temperature detecting output of said temperature sensor to control temperatures of said light-curing resin,

wherein said temperature control unit heat-controls said light-curing resin to a glass transition temperature or other heat setting temperatures when irradiating said light-curing

resin with the light for curing and cool-controls said light-curing resin after stopping light irradiating.

Claim 5 (Withdrawn): The apparatus for forming the coating on the optical fiber according to claim 4, wherein a Peltier element is used as the heating-and-cooling unit.

Claim 6 (Withdrawn): The apparatus for forming a coating on the optical fiber according to claim 5, wherein the heating-and-cooling unit includes a heater for heating and an additional unit for cooling in addition to the Peltier element.

Claim 7 (Withdrawn): The apparatus for forming a coating on the optical fiber according to claim 6, wherein the additional unit for cooling comprises a fan or a heat pipe.

Claim 8 (Withdrawn): The apparatus for forming a coating on the optical fiber according to claim 4 further comprising:

a tank for storing the light-curing resin to be injected into the mold;

a tube and a pump for injecting the light-curing resin from said tank to said mold,

wherein each of said tube, pump and tank is provided with a heater and a temperature sensor, and

the temperature control unit controls the heaters of said tube, pump and tank in accordance with a temperature detecting output of each of said corresponding temperature sensors for enhancing flowability of the light-curing resin to be injected into the mold.

Claim 9 (New): A method of forming a coating on an optical fiber, comprising:

setting a coating forming portion of the optical fiber in a mold;

heating and monitoring a unit configured to store and inject a light-curing resin in order to heat the light-curing resin to a temperature for enhancing flowability of the light-curing resin;

injecting the light-curing resin into the mold;

heating and monitoring the mold in order to heat the light-curing resin up to a predetermined temperature; and

irradiating the light-curing resin, which has been heated up to the predetermined temperature, with a light in order to cure the light-curing resin.

Claim 10 (New): The method of forming a coating on an optical fiber according to claim 9, further comprising:

during injection, heating and monitoring the mold in order to heat the mold to the temperature for enhancing flowability of the light-curing resin.

Claim 11 (New): The method of forming a coating on an optical fiber according to claim 9,

wherein the predetermined temperature is the glass transition temperature of the light-curing resin.

Claim 12 (New): The method of forming a coating on an optical fiber according to claim 9,

wherein the unit configured to store and inject the light-curing resin includes a tank, tube, and pump, each provided with a heater and a temperature sensor, and

wherein the heaters of the tank, tube, and pump are controlled in accordance with a temperature detecting output of each of the respective temperature sensors.

Claim 13 (New): A method of forming a coating on an optical fiber, comprising:

setting a coating forming portion of the optical fiber in a mold;

heating and monitoring a means for storing and injecting a light-curing resin in order to heat the light-curing resin to a temperature for enhancing flowability of the light-curing resin.

injecting the light-curing resin into the mold;

heating and monitoring the mold in order to heat the light-curing resin up to a predetermined temperature; and

irradiating the light-curing resin, which has been heated up to the predetermined temperature, with a light in order to cure the light-curing resin.

Claim 14 (New): The method of forming a coating on an optical fiber according to claim 13, further comprising:

during injection, heating and monitoring the mold in order to heat the mold to the temperature for enhancing flowability of the light-curing resin.

Claim 15 (New): The method of forming a coating on an optical fiber according to claim 13,

wherein the predetermined temperature is the glass transition temperature of the light-curing resin.